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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,770	06/24/2005	Reddy Muddasani Pulla	13102.13USWO	4658
23552	7590	09/13/2006	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			PARSA, JAFAR F	
			ART UNIT	PAPER NUMBER

1621

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/516,770	Applicant(s) PULLA, REDDY MUDDASANI	
	Examiner Jafar Parsa	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/24/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because it contains multiple periods and is not clear where the claim ends.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 2-6 recite the broad recitation 300-700ppm, and the claims also recite 300-500ppm which is the narrower statement of the range/limitation. The same types of corrections are required for claims 3-6.

Claim Objections

Claims 3 and 6 are objected to because of the following informalities: in claim 3, line 3, the term "*methylene, chloride*" should be corrected to *methylene chloride*.

In claim 6, line 3, the term "*sodium, carbonate*" should be corrected to sodium carbonate.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiruvengadam et al (USPN 6,207,822 B1).

Applicant's claimed invention is directed to a process for the preparation of 4-(4-fluorobenzoyl) butyric acid which comprises: (a) Preparing a solution of normal quality

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fluorobenzene, glutaric anhydride and halogenated solvent, the amount of fluorobenzene used being in a molar ratio of 0.5 to 0.7 molar equivalent with regard to the amount of glutaric anhydride used. (b) Preparing a mixture of aluminum chloride, normal quality fluorobenzene and halogenated solvent, the amount of fluorobenzene used being in a molar ratio of 0.5 to 0.6 molar equivalent with regard to the amount of glutaric anhydride used and the amount of halogenated solvent used being at least 4-6 times (w/v) with regard to the amount of glutaric anhydride used. (c) Adding the solution obtained in step (a) to the mixture obtained in step (b) at a temperature in the range of 10 to 25.degree. C. (d) Maintaining the reaction mixture at the temperature in the range of 10 to 25.degree. C. for a period in the range of 2 to 4 hrs. (e) Pouring the reaction mixture into could dilute hydrochloric acid. (f) Distilling the halogenated solvent at the atmospheric pressure for its recovery. (g) Filtering and washing the residue with the same halogenated solvent used in step (b) above to obtain the compound of the formula-I. (h) Purifying the compound of the formula-I by dissolving it in aqueous base and precipitating the product by acidification after giving a carbon treatment to the basic solution. (i) Isolating the precipitated compound of formula-I by filtration and if desired (j) Recrystalling the purified acid form a single or mixture of solvents.

Thiruvengadam teaches a process for preparation of 4-(4-fluorobenzoyl) butyric acid: Charge 250 g of anhydrous AlCl_3 (1.87 moles) to a 2 L 3-neck round bottom flask, add 300 mL fluorobenzene (307.5 g; 3.2 moles) and cool the mixture in an ice bath to 5⁰ C. Add a hazy suspension of 100 g glutaric anhydride (0.86 mole) in 400 mL fluorobenzene (4.3 moles) through an addition funnel over a period of 45 min., and

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maintain the temperature below 12⁰ C. Warm the reaction mixture to ambient temperature gradually and agitate at r.t. for about 90 min.; check for completion by NMR. Cool the reaction mixture to 0 to 5⁰ C., then add a cold aqueous solution (700 mL) of 1N HCl carefully to the mixture to destroy any unreacted AlCl₃, keeping the temperature of the mixture below 20⁰ C. during the early part of the acid addition, and below 40⁰ C. for the rest of the time. Pour the entire mixture into a 2 L 1:1 mixture of water and ice (v/w) to precipitate out crude products, filter the white suspension and wash well with water. Add the white residue to 3 L of aqueous saturated solution (.about.5%) of NaHCO₃, heat the basic mixture on a steam bath for one hour and filter the batch while hot through a thin pad of celite. Cool the filtrate to r.t., add about 320 mL of concentrated HCl dropwise into the filtrate to pH 1 to crystallize out products, and agitate the white suspension in an ice bath for 30 min. Filter the batch, wash the wet cake with ice cold water and dry in a vacuum oven at 50⁰ C. for 16 h to obtain 143.2 g of 4-(4-fluorobenzoyl)-butyric acid; m.p. 141 to 142⁰ C., isolated yield: 79.3% .

Applicant stated that the claims differ from the reference by reciting a normal quality fluorobenzine (benzene content between 300-700ppm) as a starting material for preparing 4-(4-fluorobenzoyl) butyric acid, whereas the reference uses a high quality fluorobenze (less than 100ppm benzene). The examiner notes that the reference is silent about the type of a fluorobenzene, which is used in the process for preparing 4-(4-fluorobenzoyl) butyric acid. However, even if the reference uses a high quality fluorobenzene one would expect that there would be less impurities and higher yield of the desired product. It would therefore have been obvious to one of ordinary skill in the

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art at the time the invention was made to use any type of fluorobenzene available in the market for preparing 4-(4-fluorobenzoyl) butyric acid with the expectation of obtaining of higher yield and less impurities.

If applicant claiming unexpected results a side-by-side comparison with only one variable may be submitted in declaration or affidavit form demonstrating the unexpected results.

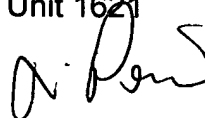
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jafar Parsa whose telephone number is (571)272-0643. The examiner can normally be reached on 8 a.m.-4:30 p.m. (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

Jafar Parsa
Primary Examiner
Art Unit 1621



J. PARSA
PRIMARY EXAMINER